

Atty. Dkt. No. 034827-3901

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**REMARKS****Status of the Claims**

This paper amends the specification and claims 50-51 and 66-67 to correct minor typographical errors. Claim 52 is amended to correct dependency. No new matter is added by these amendments. After the amendments set forth above are entered, claims 28-30 and 40-68 are pending and under examination.

**Objections**

The Examiner objects to paragraphs 27 and 31 of the specification and to claims 50-51 and 66-67. These objections have been overcome by the amendments contained herein and may be withdrawn.

**Request to Withdraw Finality**

Applicants respectfully submit that the Office Action mailed March 30, 2007, has been improperly made Final. In that Office Action, the Examiner withdrew all pending rejections and asserted new obviousness rejections based on the combination of Eberie et al. (U.S. Patent 5,413,906) and Bodepudi et al. (U.S. Patent Publication 2004/0171040). In making the Office Action final, the Examiner asserts that the new rejections are necessitated by Applicants' amendments. Applicants respectfully disagree.

In response to the Examiner's rejections contained in the non-final Office Action of August 25, 2006, Applicants amended claim 28 to include (i) the limitation of dependent claim 32 (now canceled), and (ii) a further limitation that neither the RNA template nor the DNA primer contains a detectable moiety. Applicants added new independent claim 53 which is substantially the same as amended claim 28 with respect to issues related to the finality of this Office Action. Claims 28 and 53 are the only pending independent claims.

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The new rejection asserted in the Office Action of March 30, 2007, is not necessitated by Applicants' amendments. To the extent that the new rejection applies to the limitation previously contained in dependent claim 32, the finality of the current rejection based on Eberie et al. and Bodepudi et al. is improper because it could have been previously asserted against claim 32, but it was not.

Applicants' second amendment—the requirement that neither the RNA template nor the DNA primer contains a detectable moiety—is not relevant to the teachings of either Eberie et al. or Bodepudi et al. The Examiner alleges that Eberie et al. teach a kit that is substantially the same as Applicants' claimed kit but lacking an acridinium-labeled dNTP (see, Final Office Action at p. 4, first paragraph). The Examiner alleges that Bodepudi et al. teaches an acridinium-labeled dNTP (see, Final Office Action at p. 4, second paragraph). Thus, neither of these references are directed to Applicants' second amendment which excludes a labeled RNA template or DNA primer. Accordingly, this amendment did not necessitate a new rejection based on Eberie et al. and Bodepudi et al.

In sum, the newly applied rejections were not necessitated by Applicants' previous amendments. Therefore, Applicants respectfully request that the finality of the Office Action mailed March 30, 2007, be withdrawn. Applicants further request that, at a minimum, the amendment be entered because it reduces issues on appeal or places the case in immediate condition for allowance.

#### Rejection under 35 U.S.C. § 103(a)

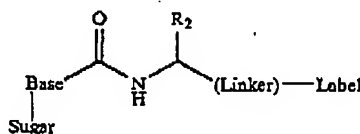
##### Eberie et al. in view of Bodepudi et al.

Claims 28-30, 40-43, 45-46, 53-59, 61-65, and 68 stand rejected as being obvious over Eberie et al. (U.S. Patent 5,413,906) and Bodepudi et al. (U.S. Patent Publication 2004/0171040). The Examiner alleges that Eberie et al. teach a kit containing substantially the same reagents as required in Applicants' claimed invention. Final Office Action at page 3, fourth

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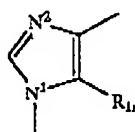
paragraph. The Examiner acknowledges, however, that Eberie et al. do not teach deoxynucleoside triphosphates (dNTPs) labeled with an acridinium moiety. Final Office Action at page 4, first paragraph. To remedy this deficiency, the Examiner alleges that Bodepudi et al. teach acridinium-labeled dNTPs and that it would have been obvious to use these labeled dNTPs in the kit of Eberie et al. Applicants respectfully disagree with the Examiner's characterization of Bodepudi et al.

Bodepudi et al. do not teach acridinium-labeled dNTPs. Instead, they teach non-purine and non-pyrimidine dNTP derivatives. Specifically, Bodepudi et al. provides compounds having the following structure (Boudipudi et al. at ¶ 7):



(I).

However, the "Base" referred to in the above structure is not a purine or a pyrimidine base. The "Base" is a derivative having the following structure (Boudipudi et al. at ¶ 8):



(II),

wherein  $R_1$  to "-H, -HNC(O)NH<sub>2</sub>, -NH<sub>2</sub>, -OH, -O(alkyl), alkyl, CO<sub>2</sub>H" (Boudipudi et al. at ¶ 12).

This is not a nucleobase (i.e., a purine or a pyrimidine) as required for the acridinium-labeled dNTPs of Applicants' claimed invention. Although compound (II) contains an imidazole ring, similar to that contained in the purine bases (e.g., adenine and guanine), in no example does  $R_1$  form the pyrimidine ring necessary for a properly formed purine base. For specific examples

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of the nucleobase derivatives provided by Boudipudi et al., Applicants respectfully direct the Examiner's attention to the compounds at ¶¶ 171, 175, 178, 181, 185, 188, 191, 194, 197, 200, 202, 204, 206, 208, 210, 212, 214, 216, 257, 261, 264, 267, 271, 274, 277, 281, 284, 287, 289, 291, 293, 295, 297, 299, 301, and 303. None of these compounds contain a nucleobase structure because the R<sub>1</sub> group is never cyclized into a pyrimidine ring (or any ring structure).

In sum, Bodipudi et al. provide at least 36 specific examples of compounds that conform to the general formula of structure (I) and in no instance do they teach an acridinium-labeled dNTP. Thus, the Examiner has failed to demonstrate that the prior art teaches or suggests every limitation of Applicant's claimed invention. Accordingly, this rejection is traversed and should be withdrawn.

Eberie et al. in view of Bodepudi et al. and Petrie et al.

Claims 47-49 and 63-65 stand rejected in view of Eberie et al. in view of Bodepudi et al., as alleged above, and in further view of Petrie et al. (U.S. Patent 5,824,796). Applicants respectfully traverse this rejection.

Petrie et al. do not provide what Eberie et al. and Bodepudi et al. lack. Whether or not Petrie et al. provide chemical linkers similar to those specified in claims 47-49 and 63-65 is irrelevant. Petrie et al. do not address the basic deficiency in the Examiner's combination of Eberie et al. and Bodepudi et al. as asserted against claims 38 and 53; the only pending independent claims. Accordingly, the rejection of claims 47-49 and 63-65 is traversed and should be withdrawn.

Eberie et al. in view of Bodepudi et al. and Nelson et al.

Claims 44, 50-51, 60, and 66-67 stand rejected in view of Eberie et al. in view of Bodepudi et al., as alleged above, and in further view of Nelson et al. (Biochemistry, 35: 8429-8438, 1996). Applicants respectfully traverse this rejection.

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Nelson et al. do not provide what Eberie et al. and Bodepudi et al. lack. Whether or not Nelson et al. provide the particular acridinium species required in the rejected claims is irrelevant. Petrie et al. do not address the basic deficiency in the Examiner's combination of Eberie et al. and Bodepudi et al. as asserted against claims 38 and 53; the only pending independent claims. Accordingly, the rejection of claims 47-49 and 63-65 is traversed and should be withdrawn.

### CONCLUSION

In view of the above amendments and remarks, reconsideration and favorable action on all claims are respectfully requested. In the event any matters remain to be resolved in view of this communication, the Examiner is encouraged to contact the undersigned so that a prompt disposition of this application can be achieved.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

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Respectfully submitted,

Date 06/21/2007

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